WHAT IS CLAIMED IS:

1. A data storage system connectable to a host unit which issues data read/write requests to the data storage system, the data storage system comprising:

a plurality of disc units; and

a controller connected to the disc units;

wherein a fault can occur in any of the disc units;

wherein the disc units store data in a plurality of data groups and error correcting data corresponding to each of the data groups;

wherein the controller performs processing of reconstructing data stored in any of the disc units in which a fault has occurred based on all other data belonging to any of the data groups to which the data to be reconstructed belongs and error correcting data corresponding to any of the data groups to which the data to be reconstructed belongs, and performs processing of data read/write requests from the host unit; and

wherein the controller is operable in a first mode wherein the processing of reconstructing data has priority over the processing of data read/write requests, and a second mode wherein the processing of data read/write requests has priority over the processing of reconstructing data.

2. A data storage system according to claim 1, wherein the controller determines whether to operate in the first mode or the second mode based on an urgency of data reconstruction.

3. A data storage system according to claim 1, wherein the controller determines whether to operate in the first mode or the second mode in order to complete data reconstruction within a fixed time.

4. A data storage system connectable to a host unit which issues data read/write requests to the data storage system, the data storage system comprising:

a plurality of disc units; and

a controller connected to the disc units;

wherein a fault can occur in any of the disc units;

wherein the disc units store data in a plurality of data groups and error correcting data corresponding to each of the data groups;

wherein the controller performs processing of reconstructing data stored in any of the disc units in which a fault has occurred based on all other data belonging to any of the data groups to which the data to be reconstructed belongs and error correcting data corresponding to any of the data groups to which the data

to be reconstructed belongs, and performs processing of data read/write requests from the host unit;

wherein the controller is operable in a first mode wherein the processing of reconstructing data has priority over the processing of data read/write requests, and a second mode wherein the processing of data read/write requests has priority over the processing of reconstructing data; and

wherein the controller determines whether to operate in the first mode or the second mode in order to complete data reconstruction within a fixed time which is determined before the processing of reconstructing data begins.

5. A data storage system connectable to a host unit which issues data read/write requests to the data storage system, the data storage system comprising:

a plurality of disc units; and

a controller connected to the disc units;

wherein a fault can occur in any of the disc units;

wherein the disc units store data in a plurality of data groups and error correcting data corresponding to each of the data groups;

wherein the controller performs processing of reconstructing data stored in any of the disc units in which a fault has occurred based on all other data

belonging to any of the data groups to which the data to be reconstructed belongs and error correcting data corresponding to any of the data groups to which the data to be reconstructed belongs, and performs processing of data read/write requests from the host unit;

wherein the controller is operable in a first mode wherein the processing of reconstructing data has priority over the processing of data read/write requests, and a second mode wherein the processing of data read/write requests has priority over the processing of reconstructing data; and

wherein the controller determines whether to operate in the first mode or the second mode based on a condition determined before the processing of reconstructing data begins.

6. A data storage system connectable to a host unit which issues data read/write requests to the data storage system, the data storage system comprising:

a plurality of disc units; and

a controller connected to the disc units;

wherein a fault can occur in any of the disc units;

wherein the disc units store data in a plurality of data groups and error correcting data corresponding to each of the data groups;

wherein the controller performs processing of reconstructing data stored in any of the disc units in which a fault has occurred based on all other data belonging to any of the data groups to which the data to be reconstructed belongs and error correcting data corresponding to any of the data groups to which the data to be reconstructed belongs, and performs processing of data read/write requests from the host unit;

wherein the controller is operable in a first mode wherein the processing of reconstructing data has priority over the processing of data read/write requests, and a second mode wherein the processing of data read/write requests has priority over the processing of reconstructing data; and

wherein the controller determines whether to operate in the first mode or the second mode based on a time for reconstructing data which is determined before the processing of reconstructing data begins.

7. A data storage system connectable to a host unit which issues data read/write requests to the data storage system, the data storage system comprising:

a plurality of disc units; and

a controller connected to the disc units;

wherein a fault can occur in any of the disc units;

wherein the disc units store data in a plurality of data groups and error correcting data corresponding to each of the data groups;

wherein the controller performs processing of reconstructing data stored in any of the disc units in which a fault has occurred based on all other data belonging to any of the data groups to which the data to be reconstructed belongs and error correcting data corresponding to any of the data groups to which the data to be reconstructed belongs, and performs processing of data read/write requests from the host unit; and

wherein the controller performs the processing of reconstructing data and the processing of data read/write requests based on a condition determined before the processing of reconstructing data begins.

8. A data storage system according to claim 7, wherein the condition is a time for reconstructing data.

9. A data storage system according to claim 7, wherein the condition determines a priority of the processing of reconstructing data and a priority of the processing of data read/write requests.

10. A data storage system according to claim 9, wherein the condition is a time for reconstructing data.

11. A data storage system connectable to a host unit which issues data read/write requests to the data storage system, the data storage system comprising:

a plurality of disc units; and

a controller connected to the disc units;

wherein a fault can occur in any of the disc units;

wherein the disc units store data in a plurality of data groups and error correcting data corresponding to each of the data groups;

wherein the controller performs processing of reconstructing data stored in any of the disc units in which a fault has occurred based on all other data belonging to any of the data groups to which the data to be reconstructed belongs and error correcting data corresponding to any of the data groups to which the data to be reconstructed belongs, and performs processing of data read/write requests from the host unit; and

wherein the controller determines a priority of the processing of reconstructing data and a priority of the processing of data read/write requests based on a condition determined before the processing of reconstructing data begins.

12. A data storage system according to claim 11, wherein the condition is a time for reconstructing data.